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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/570,739	09/14/2006	Kazuhiro Hama	CU-4717 RJS	8712

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LADAS & PARRY LLP
224 SOUTH MICHIGAN AVENUE
SUITE 1600
CHICAGO, IL 60604

EXAMINER

ROBINSON, ELIZABETH A

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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03/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/570,739	Applicant(s) HAMA ET AL.	
	Examiner Elizabeth Robinson	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 2 is currently pending.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 12, 2008 has been entered.

Claim Rejections - 35 USC § 112

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim states the limitation that the urethane resin is hydrophobic, but not how hydrophobic the resin has to be. As evidenced by Grinstein et al. (US 5,889,092), the thickeners used in the ink formulation art can be polyurethanes that are water soluble, but contain hydrophobic groups (Column 1, lines 16-47). Thus, there are varying degrees of hydrophobicity for a urethane that is part of an ink

formulation. There is no indication if a water soluble polyurethane with hydrophobic groups would meet the limitations of the instant claim.

Claim Rejections - 35 USC § 103

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Handforth in view of Schnee (US 3,936,547). Handforth (Column 2, lines 7 through 25) teaches printing an ink composition comprised of two polymers (A and B) and a pigment on a substrate. The substrate can be paper (Column 3, lines 43 through 51). When the substrate is paper, the primary polymer A can be a methyl methacrylate (an acrylic resin) (Column 4, lines 45 through 58). Polymer B can be a polyurethane-containing resin (urethane resin) (Column 3, lines 56 through 60). The pigment can be a pearlescent pigment, which the Examiner is considering to be a scaly foil of a bright pigment (Column 9, lines 1 through 10). The ink can be printed on the paper using gravure printing (Column 5, lines 56 through 59). Handforth (Column 3, lines 3 through 12) further teaches that the urethane component in the ink binder is an adhesion promoter in an aqueous composition. Handforth (Column 4, lines 3-8) teaches that Polymer B can be substantially water-insoluble (hydrophobic). Handforth does not teach impregnating the paper with a resin and curing. Schnee (Column 1, lines 40 through 43) teaches a process for impregnating paper with a melamine resin solution and then drying (curing). Melamines are thermoset resins. Schnee (Column 2, lines 58 through 65) further teaches that the impregnated paper can be a decorative paper. The melamine impregnation solution contains water or water-miscible solvents, in order to

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easily and deeply impregnate the paper substrate (Column 2, lines 1 through 7). It would be obvious to one of ordinary skill in the art to use the decorative paper of Handforth as the paper to be impregnated by the melamine resin of Schnee because the urethane binder would maintain adhesion of the ink in the aqueous melamine resin.

Response to Arguments

Applicant's arguments filed February 12, 2008 have been fully considered but they are not persuasive.

Applicant argues that the urethane of Handforth is not hydrophobic. As stated above, the urethane of Handforth can be substantially water-insoluble. Further, as stated above, as evidenced by Grinstein et al., even water soluble polyurethanes can have some degree of hydrophobicity. Further, the teaching from the instant application that urethane is hydrophobic is inferred from the behavior after the ink has dried, but does not specify to what degree the urethane is hydrophobic. The instant specification teaches that the urethane can be a carboxyl group containing polyurethane resin. Handforth (Column 4, lines 3-8) teaches that carboxyl groups are hydrophilic groups, and thus, the resin of the instant application would have some degree of hydrophilic behavior.

Due to amendments to the claims, the 35 U.S.C. 112, second paragraph rejections from the September 13, 2007 Office Action are withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Robinson whose telephone number is (571)272-7129. The examiner can normally be reached on Monday- Friday 8 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ear
/E. R./
Examiner, Art Unit 1794

/Carol Chaney/
Supervisory Patent Examiner, Art Unit 1794